

## Claims

- 5 1. A green-emitting LED which is designed as a luminescence conversion LED, comprising a primary radiation source, which is a chip emitting in the UV or blue radiation region, and a layer of a phosphor which is arranged in front of the primary radiation source and completely or  
10 partially converts the radiation of the chip into green light of dominant wavelength  $\lambda_{\text{dom}} = 550$  to  $570$  nm, characterized in that the phosphor belongs to the class of the oxynitridosilicates, having a cation M and the empirical formula  $M_{(1-c)}Si_2O_2N_2:D_c$ , where D denotes a doping  
15 with divalent europium and where M comprises Sr as a constituent and M = Sr alone or M =  $Sr_{(1-x-y)}Ba_yCa_x$  with  $0 \leq x+y < 0.5$  is used, the oxynitridosilicate completely or predominantly comprising the high-temperature-stable modification HT.
- 20 2. The LED as claimed in claim 1, characterized in that the Eu fraction makes up between 0.1 and 20 mol% of M.
- 25 3. The LED as claimed in claim 1, characterized in that Sr represents the majority of M and a proportion of M, in particular up to 30 mol%, is replaced by Ba and/or Ca.
- 30 4. The LED as claimed in claim 1, characterized in that a proportion of M, in particular up to 30 mol%, is replaced by Li and/or La and/or Zn.
- 35 5. The LED as claimed in claim 1, characterized in that part of the SiN group in the oxynitridosilicate of formula  $MSi_2O_2N_2$ , in particular up to 30 mol%, is replaced by the AlO group.

6. The LED as claimed in claim 1, characterized in that a proportion of Eu, in particular up to 30 mol%, is replaced by Mn.
7. The LED as claimed in claim 1, characterized in that the primary emission has a peak wavelength in the range from 380 to 430 nm, in particular at least 380 nm.  
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8. The LED as claimed in claim 1, characterized in that the green emission has a dominant wavelength in the range from 10 556 to 564 nm.
9. The LED as claimed in claim 1, characterized in that the primary radiation is completely converted.
- 15 10. The LED as claimed in claim 1, characterized in that the chip is an InGaN chip with a peak emission wavelength in the range from 430 to 465 nm.
11. The LED as claimed in claim 1, characterized in that the 20 LED is dimmable.